1. (Currently Amended) A solder interconnect used with an integrated circuit structure, said interconnect comprising:

a metal layer on a substrate;

a first copper layer on said metal layer;

a barrier layer on said copper layer;

a stabilizing copper layer on said barrier layer; and

a tin-based solder bump on said barrier layer,

wherein said stabilizing copper layer comprises a sufficient amount of copper to balance the chemical potential gradient of copper across said barrier layer.

2. (Currently Amended) The interconnect in claim 1, wherein said stabilizing copper layer comprises a sufficient amount of copper to ~~balance the chemical potential gradient of copper across said barrier layer and~~ prevent copper within said first copper layer from diffusing across said barrier layer.

3. (Original) The interconnect in claim 1, wherein said tin-based solder bump comprises a copper rich solder alloy.

4. (Original)The interconnect in claim 1, wherein said metal layer comprises diffusion metallurgy including at least one of Al, Ti, TiW, Cr, Ta, and TaN.

5. (Original) The interconnect in claim 1, wherein said barrier layer comprises one of Ni, V, and NiV.

6. (Original) The interconnect in claim 1, wherein said tin-based solder bump comprises one of a eutectic PbSn solder and lead-free solders.

7. (Currently Amended) A solder interconnect used with an integrated circuit structure, said interconnect comprising:

a metal layer on a substrate;

a first copper layer on said metal layer;

a barrier layer on said copper layer;

a copper and tin-based solder alloy bump on said barrier layer,

wherein said copper and tin-based solder alloy bump comprises a sufficient amount of copper to balance the chemical potential gradient of copper across said barrier layer.

8. (Currently Amended) The interconnect in claim 7, wherein said copper and tin-based solder alloy bump comprises a sufficient amount of copper to ~~balance the chemical potential gradient of copper across said barrier layer and~~ prevent copper within said first copper layer from diffusing across said barrier layer.

9. (Original) The interconnect in claim 7, wherein said metal layer comprises diffusion metallurgy including at least one of Al, Ti, TiW, Cr, Ta, and TaN.

10. (Original) The interconnect in claim 7, wherein said barrier layer comprises one of Ni, V, and NiV.

11. (Original) The interconnect in claim 7, wherein said tin-based solder alloy bump comprises one of a eutectic PbSn solder and lead-free solders.

12. (Currently Amended) An integrated circuit structure comprising:

internal circuitry; and

an interconnect on an external portion of said structure, said interconnect comprising:

a metal layer on said external portion of said structure;

a first copper layer on said metal layer;

a barrier layer on said copper layer;

a stabilizing copper layer on said barrier layer; and

a tin-based solder bump on said barrier layer,

wherein said stabilizing copper layer comprises a sufficient amount of copper to balance the chemical potential gradient of copper across said barrier layer.

13. (Currently Amended) The structure in claim 12, wherein said stabilizing copper layer comprises a sufficient amount of copper to ~~balance the chemical potential gradient of copper across said barrier layer and~~ prevent copper within said first copper layer from diffusing across said barrier layer.

14. (Original) The structure in claim 12, wherein said tin-based solder bump comprises a copper rich solder alloy.

15. (Original) The structure in claim 12, wherein said metal layer comprises diffusion metallurgy including at least one of Al, Ti, TiW, Cr, Ta, and TaN.

16. (Original) The structure in claim 12, wherein said barrier layer comprises one of Ni, V, and NiV.

17. (Original)The structure in claim 12, wherein said tin-based solder bump comprises one of a eutectic PbSn solder and lead-free solders.

18. (Currently Amended) An integrated circuit structure comprising:

internal circuitry; and

an interconnect on an external portion of said structure, said interconnect comprising:

a metal layer on said external portion of said structure;

a first copper layer on said metal layer;

a barrier layer on said copper layer;

a copper and tin-based solder alloy bump on said barrier layer,

wherein said copper and tin-based solder alloy bump comprises a sufficient amount of copper to balance the chemical potential gradient of copper across said barrier layer.

19. (Currently Amended) The structure in claim 18, wherein said copper and tin-based solder alloy bump comprises a sufficient amount of copper to ~~balance the chemical potential gradient of copper across said barrier layer and~~ prevent copper within said first copper layer from diffusing across said barrier layer.

20. (Original)The structure in claim 18, wherein said metal layer comprises diffusion metallurgy including at least one of Al, Ti, TiW, Cr, Ta, and TaN.

21. (Original) The structure in claim 18, wherein said barrier layer comprises one of Ni, V, and NiV.

22. (Original) The structure in claim 18, wherein said tin-based solder alloy bump comprises one of a eutectic PbSn solder and lead-free solders.